

## ***Interactive comment on “Inverse isolation of dissolved inorganic nitrogen yield for individual land-uses from mosaic land-use patterns within a watershed” by Y.-T. Shih et al.***

**Y.-T. Shih et al.**

riverhuang@ntu.edu.tw

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Dear Dr. Stamm,

We sincerely appreciate your help in handling our manuscript. Both reviewers gave us very constructive and careful review. Reviewer #1 fully understood the merits of our study and gave us many positive and constructive comments. He/She raised two main concerns in this study. One is the dependency between urban and population which might result in the colinearity in our model. The other is to refine the crop types, instead of using a more general term, agriculture, to reduce the large variation of agricultural

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yield factor. Reviewer #2 showed concerns about the methods of our flux estimation and he/she encouraged us to present the results more clearly and deliberate the implications further. In accordance with the comments, we compared different structures of the models and evaluated the contribution of “urban” in the model performance. We also performed the VIF which is widely used in multiple regression approach to determine the colinearity. The general term, agriculture, was sub-classified according to crop types to improve the model performance which can be of use for further management. We also followed reviewer’s suggestion to remove global mean method in our flux estimation. The revised fluxes are similar to what we presented before; thus, the story is consistent. All the comments were addressed and replied in the individual reply. Additionally, we invited a native speaker to refine the English to improve the readability.

Again, many thanks to you. Please free feel to contact me, if you have any questions.

Best regards,

Jr-Chuan Huang

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